

EVALUATION OF NEW CULTIVATION TOOLS FOR WEED CONTROL IN NEWLY PLANTED MATTED ROW STRAWBERRIES

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Abstract. We evaluated Devrinol herbicide and 4 cultivation tools for their utility in managing weeds in a new matted row strawberry planting. These tools were a flex-tine harrow, a finger weeder, a brush hoe and a rototiller. Once the implements were no longer able to control weeds without damaging runners, treatment plots were split in half and one half received a Devrinol application. Rototilling plus hand-weeding, a standard practice, was among the most expensive treatments. Devrinol used alone without any supplemental cultivation was least expensive, but resulted in the weediest plots and the lowest yields. Although total weed biomass differed greatly among treatments at the end of the season, so long as weeds were controlled early, there were no significant effects on yield. One of the more promising treatments was the brush hoe. It controlled weeds extremely well without supplemental herbicide, it was among the least expensive treatments, and plots yielded well. Current models of brush hoe would work well for strawberry growers if they were modified slightly to accommodate the progressive widening of rows over the season.

One of the major challenges of matted row strawberry growers is weed control in the planting year. Currently, only one preemergent herbicide (Devrinol) has a national label for use during plant establishment. Growers are relying more on cultivation, but the standard cultivation implement (rototiller) breaks down soil structure and brings weed seeds to the soil surface where they can germinate. Restrictions on herbicide use in Europe sparked interest in new cultivation equipment for vegetables that does not destroy soil structure or promote weed seed germination. These implements are now available in North America. We were interested to learn if these tools have utility in matted row strawberry plantings.

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